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CLAIMS

1.   In a system for processing a digital datastream of MPEG coded image representative information, an MPEG compatible signal processing network comprising:

        an input network (12, 14...) for receiving a datastream of compressed MPEG compatible data;

        a decompressor (18, 20, 21, 22) for decompressing said compressed MPEG compatible data to produce decompressed data;

        a plurality of similar, concurrently operative compressors (40, 42) for respectively recompressing different datastreams derived from said decompressed data to produce recompressed data; and

        a memory (60) for storing recompressed data from said plurality of compressors.

2.   A system according to claim 1, wherein
        said MPEG compatible data is in the form of pixel blocks;
        said plurality of compressors includes a first compressor (40) for recompressing a first component (a, c) of said data and a similar second compressor (42) for recompressing a second component (b, d) of said data; and
        said memory stores said recompressed first and second components of data.

3.   A system according to claim 1, wherein
        said MPEG compatible data is in the form of pixel blocks;
        said plurality of compressors includes a first compressor for recompressing a first datastream (P1) of interleaved pixel data (a, c), and a second compressor (42) for recompressing a second datastream (P2) of interleaved pixel data (b, d); and
        said memory stores recompressed data from said first interleaved datastream and data from said second interleaved datastream.

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4. A system according to claim 1, and further including
$\mathcal{Q}$ an interleaving network (24, 27) responsive to said datastream for
deriving therefrom multiple datastreams of interleaved pixel data in a
predetermined sequence for processing by said multiple compressors,
10 respectively.

5. A system according to claim 4, wherein
said interleaved pixel data comprise an MPEG compatible
macroblock.
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6. A system according to claim 4, wherein
said interleaving network produces a first datastream of interleaved
$\mathcal{Q}$ first and second data components (A, C), and a second datastream of
$\mathcal{Q}$ interleaved third and fourth data components (B, D), for respective
20 processing by first and second compressors constituting said multiple
compressors.

7. A system according to claim 6, wherein
said first, second, third and fourth data components comprise an
25 MPEG compatible macroblock.

8. A system according to claim 1 and further including
$\mathcal{Q}$ a decompression network (80-84) for decompressing recompressed
data from said memory; wherein
30 said plurality of compressors and said decompression network are
included in a DPCM loop.

9. A system according to claim 4, wherein
$\mathcal{Q}$ said DPCM loop includes a motion compensation network (90).

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      10. A method of processing a datastream of compressed MPEG coded image representative data comprising the steps of:

      decompressing said compressed data to produce decompressed data;

10   recompressing a first portion of said decompressed data ~~(a,c)~~ using a first recompressor ~~(40)~~ to produce first recompressed data;

      recompressing a second portion of said decompressed data ~~(b,d)~~ using a second recompressor ~~(42)~~ to produce second recompressed data; and

15   storing said first and second recompressed data in memory ~~(60)~~.

      11. A method according to claim 10, further including the steps of

      decompressing said stored first and second recompressed data to produce further decompressed data; and

20   DPCM processing said further decompressed data.

      12. A method according to claim 10, wherein said DPCM processing includes

      said first and second recompressing steps, and

25   a motion compensation processing step.

      13. A method according to claim 10, wherein

      said first portion of said decompressed data subjected to said first recompression step comprises a first group of interleaved data ~~(A,C)~~; and

30   said second portion of said decompressed data subjected to said second recompression step comprises a second group of interleaved data ~~(B,D)~~.

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14. A method for processing a datastream of compressed MPEG
coded information representing image pixel data including, an MPEG
compatible decoding method for producing finally decoded pixel data for
processing by a display processor (70), said decoding method comprising
10 the steps of:
decompressing said compressed data to produce decompressed
data;
deriving finally decoded motion compensated pixel data from said
pixel data; and
15 storing data obtained from said deriving step in memory (60);
wherein
said deriving step includes the step of respectively recompressing
different datastreams derived from said decompressed data using multiple
concurrently operative similar compressors (40,42) to produce
20 recompressed data; and
said storing step includes the step of storing recompressed data
from said multiple compressors.

15. A method according to claim 14, wherein
25 said deriving step includes a DPCM signal processing step; and
said method includes the further steps of
(a) separating said datastream into multiple datastreams (P1,P2)
containing interleaved data components; and
(b) providing said multiple interleaved datastreams to said multiple
30 compressors, respectively.

16. A method according to claim 15, wherein
said separating step produces a first datastream (P1) of interleaved
first and second pixel data components (A,C) and a second datastream (P2)
35 of interleaved third and fourth pixel data components (B,D) comprising an
MPEG compatible macroblock.

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17.   In a system for processing a digital datastream of MPEG
coded image representative information, an MPEG compatible signal
processing network comprising:

an input network (12, 14) for receiving a datastream of compressed
10   MPEG compatible data in the form of pixel blocks;

an interleaving network (24, 27) responsive to said datastream for
deriving therefrom multiple datastreams of interleaved pixel data in a
predetermined sequence for processing by respective compressors;

a decompressor (18, 20, 21, 22) for decompressing said
15   compressed MPEG compatible data to produce a decompressed
datastream;

a plurality of similar, concurrently operative compressors (40, 42) for
recompressing said decompressed datastream to produce recompressed
data, said plurality of compressors including a first compressor (40) for
20   recompressing a first datastream (P1) of interleaved pixel data (a, c) derived
from the decompressed MPEG datastream and a second compressor (42)
for recompressing a second datastream (P2) of interleaved pixel data (b, d)
also derived from the decompressed MPEG datastream; and

a memory (60) for storing recompressed data from said first and
25   second interleaved datastreams.